

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE COURT**

AMPEX CORPORATION,

*Plaintiff,*

V.

C.A. No. 04-1373 (KAJ)

EASTMAN KODAK COMPANY,  
ALTEK CORPORATION, and  
CHINON INDUSTRIES, INC.,

*Defendants.*

## AMPEX CORPORATION'S OPENING CLAIM CONSTRUCTION BRIEF

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## NATURE AND STAGE OF THE PROCEEDING

Plaintiff Ampex Corporation (“Ampex”) submits this Claim Construction Brief regarding the patent in suit, U.S. Patent 4,821,121 (“the ‘121 patent”), in connection with the Claim Construction Hearing, pursuant to Paragraph 12 of the Scheduling Order. Ampex alleges that one or more of the accused digital still cameras manufactured by defendants and sold in the United States by Kodak infringe claims 7-8 and 10-15 of the ‘121 patent.

This brief discusses Ampex’s proposed construction of various terms and elements of the asserted claims. Ampex’s construction is set forth in full in the Joint Claim Construction Chart, submitted herewith, and accompanied by the pertinent intrinsic evidence. Also accompanying this brief are the declarations of Ampex’s experts Dr. George T. Ligler, Charles G. Boncelet, Jr. and Alan Cavallerano (which declarations are hereafter referred to as “Ligler ¶ \_”; “Boncelet ¶ \_” and “Cavallerano ¶ \_”, respectively); and the Declaration of Norman H. Beamer, submitting additional pertinent documents (hereafter “Beamer ¶ \_”).

## SUMMARY OF THE ARGUMENT

The starting point in construing the claims is the language of the claims themselves, as understood from the vantage point of a person of ordinary skill in the art. The recent Phillips case, *infra*, p. 6, emphasizes the importance of construing the claims in the context of the specification, and also in light of prosecution history, including prior art references cited and considered. Extrinsic evidence, and in particular authoritative dictionaries and publications, can be helpful in this process.

In this brief, Ampex applies these principles to a number of terms and phrases in the claims in suit. In particular, there are several construction issues that affect all of the claims, and have consequences to both infringement and validity. First, Kodak offers unduly narrow constructions designed to avoid infringement:

- Kodak would construe “video” narrowly, confining it to “motion video,” or even more narrowly to television broadcasting. In fact, the intrinsic record establishes, and extrinsic evidence confirms, that video is a much broader term. As the title and remaining disclosure of the ‘121 specification establish, “video” applies to still as well as motion

video images, and it applies to electronic signal representations of visual information that do not comply with broadcast standards.<sup>1</sup>

- Kodak also construes a simple antecedent issue regarding video data representing a video image in an unduly narrow way — Kodak construes “the data ... said data,” and similar language, to bar any processing or alteration of the data representing the image as the data flows through the claimed system. In fact, in the context of the claims and the specification, “data” is information, in any form, that represents the image in question. Kodak’s requirement that the “ones” and “zeros” representing the data remain mathematically unchanged would cause the preferred embodiment of the specification to fall outside the scope of the claims. Such a construction is “rarely, if ever, correct,” *infra*, p. 9.

Kodak takes a different tack in the area of validity, taking an unreasonably broad view of the claims. It champions as prior art the same failed approaches that Dan Beaulier, the ‘121 inventor, cited and distinguished before the Patent Office in column one of the patent.<sup>2</sup> The ‘121 patent discloses and claims an improved, faster approach to the problem of browsing and retrieving large numbers of images stored in a still store (a devise that stores still images). Kodak’s invalidity averments ignore the cited art, ignore the preferred embodiment of the ‘121 specification, and ignore the arguments that Ampex made to obtain its claims over that art. In particular:

- The cited art manipulated images using a complex series of manual steps, and did so in an order and using an architecture that is fundamentally different from the high speed browse invention of the ‘121 patent. Ampex clearly disavowed coverage of such art, limiting its claims to systems that automatically generate a reduced size image each time a full size image is stored, and do so before either image is stored.
- The cited art, to the extent it had the capacity to generate reduced size images, did not maintain any relationship with the full size image from which the reduced size images were generated. It is essential to the ‘121 high speed browse function of the ‘121 patent

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<sup>1</sup> Even under Kodak’s narrow definition, however, it still literally infringes via one mode of operation of its cameras, and generally under that doctrine of equivalence.

<sup>2</sup> Kodak tries to make its art look different, but, as established in Ampex’s motion for summary judgment directed to lack of materiality, submitted herewith, there is no real pertinent difference between the cited references and the asserted references.

that it maintain a relationship between the full and reduced size images. Otherwise, the browse feature will not work.

These and other claim construction issues are discussed in detail below.

### STATEMENT OF FACTS

Ampex commends to the Court's attention Ampex's Tutorial, and accompanying materials, presented to the Court on January 12, 2006. (D.I. 115, 120, 128). As explained in that presentation and accompanying graphic materials, and as elaborated in the accompanying Declaration of Alan Cavallerano, the inventions claimed in the '121 patent are directed to what the title of the patent refers to as an improved "Electronic still store with high speed sorting and method of operation." To that end, the '121 patent discloses an improved, rapidly-generated "editing or browsing mode" (4:45; Cavallerano ¶¶ 27, 29, 31). At trial, Ampex will show that Kodak uses the '121 invention in its still store/camera product combinations. Kodak calls its products "digital still cameras," and calls the browse feature "multi-up." Kodak's multi-up feature does the same thing, in the same way, for the same reason, as Ampex originally used the '121 invention for in its "ESS-3" still store, introduced at the National Association of Broadcaster's Convention in 1983.

Important background for claim construction is in the intrinsic evidence — the cited prior art still store devices and patents considered by the Patent Office during the '121 prosecution (and described in column one of the '121 patent). In particular, the cited '776 patent<sup>3</sup> shows that still stores had a "browse" feature, also called "polyphoto format" ('776, 3:55-57). The still store disclosed in the '776 patent had the basic building block components shown in the '121 Figure — including a frame store (made from random access memory ("RAM")), a bulk store (in the form of a magnetic disk), and a size reducer. This prior art still store could capture a full size image in RAM, and store that image on bulk store. By repeating this process, a library of still images would be stored on the still store. Any stored full size image could be retrieved from the bulk

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<sup>3</sup> U.S. Patent 4,302,776, cited in column 1 of the '121 patent and considered and relied on by the Examiner during the prosecution of the '121 patent. (Ligler Ex. 19).

store and placed back in RAM for review or use. To assist in locating a desired full size image, a “browse screen,” consisting of a mosaic of reduced size images arranged in 4 rows x 4 columns (for example), could be automatically generated in response to user control. The user could scroll through all the full size images on the still store using the browse feature, and select a particular image from the browse screen to display as a full size image or for other use. (Cavallerano ¶¶ 29-30, 43-46).

However, as explained in the tutorial, when a user activated the browse mode, the prior art approach generated the browse screen “on-the-fly,” by reading each full size image from the bulk store, passing it through the size reducer, and placing the reduced size image in the frame store at the proper location, finally building up the mosaic of reduced size images. (See Figures 1A-1G, attached at Tab 1). As the user browsed through the library of still images stored on the still store, each new browse screen would have to be regenerated in this fashion. This approach was slow, because it took time to read each full size image from the disk. (Cavallerano ¶ 29-30).

Dan Beaulier, the inventor of the ‘121 patent, had the insight to solve this problem of the slow prior art browse approach. His invention speeded up the generation of the browse screen, by automatically performing the following steps for each new image at the time the image was first captured:

- First, the full size image is stored in RAM
- Next, the full size image is sent to a size reducer and a reduced size image is generated
- Next, the reduced size image is sent back to RAM, and stored in the RAM along with the full size image, in separate storage locations
- Finally, the full size image and the reduced size image are stored in bulk store
- This automatic process is repeated for each new image.

(See Figures 2A-2E, Tab 2). As far as the user is concerned, all that is being done is that each full size image is being captured and stored on the still store. The generation and storage of the reduced size image are done automatically, “behind the scenes.” (Cavallerano ¶ 31, 36, 47-48).

As a result, when the user selects the browse mode, the already-generated reduced size images are read from the bulk store, and placed into RAM at the proper locations, rapidly



building up the mosaic of reduced size images. (*See* Figures 2F-2H, attached at Tab 2).

(Cavallerano ¶ 39).

As the '121 patent explains, assuming the browse screen is arranged in a 4x4 mosaic, this allows the browse screen to be generated sixteen times faster using the '121 invention compared to the prior art, on the fly approach:

The 16 image assembly time [for the browse screen] is greatly reduced because only an amount of data equivalent to one full size, full spatial resolution, image need be transferred from disk store 24 to define all 16 images. This is only one-sixteenth of the time that would conventionally be required. ('121, 4:58-63).

For a 3x3 mosaic, the '121 invention would be nine times faster than the on the fly approach.

This speed advantage was important in the context of the preferred embodiment of the invention, because the time constraints of television broadcasting presented the need for quick location and retrieval of images for use in news broadcasts and the like. As explained in the '121 patent, "such a time delay is at best disconcerting ...." (1:40-43).

The advantage of '121 approach over the cited prior art approach is graphically depicted at Figure 3, attached at Tab 3. Today, the speed advantage enjoyed by the '121 invention is still important, for example, to the marketability of the digital still cameras that use the '121 inventions. (Cavallerano ¶ 42).

An important aspect of the '121 invention is the relationship that is maintained between the full size images and the reduced size images that are automatically generated from them. It is not enough to simply generate a reduced size image and store it. The point of having a browse screen is to be able to use it to rapidly locate and retrieve a full size image stored in the still store. As stated in the '121 patent:

The disk store is capable of storing a large library of single frame images and it is often desirable to generate a reduced size multiple image picture for editing or other purposes. For example, ... an editor may wish to view and compare several images at the same time for the purpose of selecting those images which will be used in a television broadcast. (1:27-34).

An electronic still store system in accordance with the invention rapidly generates and outputs for display to an operator a still image frame comprising a plurality of selectively positioned, reduce size images which may be simultaneously viewed for scanning or editing purposes. (1:64-2:1).

In [an] editing or browsing mode, reduced resolution image data ... is selectively positioned in frame store 22 for viewing in one of 16 reduced size image positions in a 4\*4 array as a mosaic which fits within a normal full size image. Under operator control, the 16 viewable images may be taken sequentially from disk store 24 starting with a selected image frame. This mode is useful when scanning all of the images stored by disk store 24. (4:45-54)

Likewise, the prior art '776 patent, cited in column one of the '121 patent, touted the ability of the browse screen to be used to rapidly locate the associated full size pictures:

[The] 'browse facility' displays the contents of the store in a series of 'polyphoto' formats, whereupon up to a total of 64 miniature pictures are displayed at once on the CRT. It then becomes possible to look at 'pages' within the store.

\* \* \*

Although the selection of a desired picture actually displayed in the case of a picture matrix 'page' or as one of a list of titles has been described as selected via the keyboard, it would also be possible to select desired pictures by use of a light pen, for example. ('776 patent, 3:55-60, 4:45-49).

Thus, in both the prior art browse screen and the '121 improved browse screen, it was necessary to maintain a relationship between the reduced size images included in the browse matrix, and the full size images that were associated with each reduced size image. That way, the user could actually use the browse screen to locate a full size image, which is the purpose of the browse screen. (See Figures 2I-2J, Tab 2; Cavallerano ¶¶ 43-48).

## ARGUMENT

### I. THE APPLICABLE LEGAL STANDARDS

#### A. General Principles of Claim Construction

Patent claims are construed as a matter of law. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454-56 (Fed. Cir. 1998) (*en banc*). "The words of a claim 'are generally given their ordinary and customary meaning.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) (*quoting Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). That ordinary meaning "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313.<sup>4</sup>

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<sup>4</sup> The art pertinent to the subject matter of the '121 patent is the art of digital image processing and digital television broadcasting equipment. In 1983, a person of ordinary skill in the pertinent art was typically a person with a bachelors degree in electrical engineering or computer science, (Continued...)

To determine the ordinary meaning, the court should review “the same resources as would” the person of ordinary skill in the art. *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998). Those resources include “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). “Claims are not construed in a vacuum, but rather in the context of the intrinsic evidence, viz., the other claims, the specification, and the prosecution history.” *Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333 (Fed. Cir. 2003).

“The claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Phillips*, 415 F.3d at 1314. Both “the context in which a term is used in the asserted claim” and the “other claims of the patent in question” are useful for understanding the ordinary meaning. *Id.*

“The specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* at 1315 (quoting *Vitronics*, 90 F.3d at 1582). In short, the claims “must be read in view of the specification, of which they are a part.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996). Thus, “the construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

On occasion, “the specification may reveal a special definition given to a claim term ... that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316 (citing *CCS Fitness, Inc. v. Brunswick Corp.*,

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(...Continued)

and at least 3-4 years of design experience in the field. Alternatively, such a person of ordinary skill would have had a masters degree in electrical engineering or computer science and at least 1-2 years of design experience in the field. (Ligler ¶ 21; Cavallerano ¶¶ 21-22).

288 F.3d 1359, 1366 (Fed. Cir. 2002)). The specification may also “reveal an intentional disclaimer, or disavowal, of claim scope by the inventor ... [which] is regarded as dispositive.” *Id.* (citing *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed. Cir. 2001)).

However, it is “well established that broad claims supported by the written description should not be limited in their interpretation to a preferred embodiment.” *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1343 (Fed. Cir. 2001); *Generation II Orthotics Inc. v. Med. Tech. Inc.*, 263 F.3d 1356, 1367 (Fed. Cir. 2001) (“The district court should have construed the claim limitation ‘controlled’ according to its ordinary and accustomed meaning, rather than importing a characteristic of a disclosed or preferred embodiment into that term.”).

The court “should also consider the patent’s prosecution history.” *Markman*, 52 F.3d 467, 979 (Fed. Cir. 1995) “Like the specification, the prosecution history provides evidence of how the [Patent and Trademark Office] and the inventor understood the patent.” *Phillips*, 415 F.3d at 1317 (citing *Lemelson v. Gen. Mills, Inc.*, 968 F.2d 1202, 1206 (Fed. Cir. 1992)). The prosecution history of the patent “contains the complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims. As such, the record before the Patent and Trademark Office is **often of critical significance** in determining the meaning of the claims.” *Vitronics*, 90 F.3d at 1582.

The effect of the prosecution history on the construction of the claims is analyzed from the vantage point of one skilled in the art. *Vitronics*, 90 F.3d at 1583. The references cited and/or considered during the prosecution of the patent are also part of the intrinsic evidence that should be considered. *Vitronics*, 90 F.3d at 1583.

“The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.” *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995). “Where the patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of prosecution disclaimer attaches and narrows

the ordinary meaning of the claim congruent with the scope of the surrender.” *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003).

When appropriate, the court may also rely on extrinsic evidence, which is “all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. In particular, “dictionaries, and especially technical dictionaries, ... have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology.” *Phillips*, 415 F.3d at 1318 (*citing Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002)). However, extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *C.R. Bard, Inc. v. United States Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (*quoting Vanderlande Indus. Nederland BV v. Int’l Trade Comm’n*, 366 F.3d 1311, 1318 (Fed. Cir. 2004)).

During claim construction, “the sequence of steps used by the judge in consulting various sources is not important; what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law.” *Phillips*, 415 F.3d at 1324.

## **B. Specific Claim Construction Issues Arising In This Case**

***Construction Consistent With Preferred Embodiment:*** “It is well established that a claim construction that excludes a preferred embodiment is “rarely, if ever, correct.” *Dow Chem. Co. v. Sumitomo Chem. Co.*, 257 F.3d 1364, 1378 (Fed. Cir. 2001), (*quoting Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)). *See also Modine Mfg. Co. v. United States Int’l Trade Comm’n*, 75 F.3d 1545, 1550 (Fed. Cir. 1996) (holding that “a claim interpretation that would exclude the inventor’s device is rarely the correct interpretation; such an interpretation requires highly persuasive evidentiary support....”).

***Claim Differentiation:*** The doctrine of claim differentiation provides that a claim limitation added to one claim may not be “read into” another claim that does not include that limitation. *Transmatic, Inc. v. Gulton Indus., Inc.*, 53 F.3d 1270, 1277-78 (Fed. Cir. 1995). The doctrine of claim differentiation is principally applied when construing an independent claim, and

comparing it to one of its dependent claims. *See, e.g., Karlin Tech. v. Surgical Dynamics*, 177 F.3d 968, 971-72 (Fed. Cir. 1999).

**Meaning Of Terms In Context:** Generally, when the meaning of a word or phrase at one point in the specification or claims means the same thing when used in the same context elsewhere in the specification or claims. *See generally Innova/Pure Water, Inc.*, 381 F.3d at 1119. However, a claim can use the same phrase in different senses if the specification and/or prosecution history justify such construction. *Fin Control Sys. Pty, Ltd. v. OAM, Inc.*, 265 F.3d 1311, 1318 (Fed. Cir. 2001) (“[T]he same terms appearing in different portions of the claims should be given the same meaning unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims.”).

**Order Of Operations Or Steps:** The logic or grammar of a claim’s language may implicitly require that its operations or steps must be performed in the order written. *Loral Fairchild Corp. v. Sony Corp.*, 181 F.3d 1313, 1322 (Fed. Cir. 1999); *Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc.*, 152 F.3d 1368 (Fed. Cir. 1998). The Federal Circuit has established a two-part test to determine exceptions to the general rule that “[u]nless the steps of a method actually recite an order, the steps are not ordinarily construed to require one.” *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003) (quoting *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1342 (Fed. Cir. 2001)). First, courts should “look to the claim language to determine if, as a matter of logic or grammar, [the steps] must be performed in the order written.” *Altiris*, 318 F.3d at 1369 (citing *Interactive Gift*, 256 F.3d at 1343). Second, courts should look to the rest of the specification, or the prosecution history, to determine whether it “directly or implicitly requires such a narrow construction.” *Id.* at 1370 (quoting *Interactive Gift*, 256 F.3d at 1343); *Combined Sys., Inc. v. Def. Tech. Corp. of Am.*, 350 F.3d 1207 (Fed. Cir. 2003).

**Manual Versus Automatic Operations:** Claims are normally not construed to cover a human being manually performing claim element steps not explicitly invoking manual operation. *Gage v. Herring*, 107 U.S. 640, 648 (1883) (“The defendants’ mill contains no conveyor shaft in the dust room, and no mechanism which performs the same function of removing the meal there

collected. So far as the evidence shows, the meal deposited upon the floor of that room remains there until it is shoveled or swept up by manual labor. Its removal by such means affords no equivalent, in the sense of the patent law, for the automatic action described in the plaintiffs' patent."); *Davies v. United States*, 31 Fed. Cl. 769, 778-79 (Fed. Cl. 1994) ("The fact that the weapons officer could, if he so chose, perform this function manually, does not constitute infringement. Patent claims do not cover structures in which a human being substitutes for a part of the claimed structure.").

***Correction Of Typographical Errors:*** A district court can correct a patent if "(1) the correction is not subject to reasonable debate based on consideration of the claim language and specification and (2) the prosecution history does not suggest a different interpretation of the claims." *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1357 (Fed. Cir. 2003); *Hoffer v. Microsoft Corporation*, 405 F.3d 1326 (Fed. Cir. 2005).

***Erroneous Statements By Prosecuting Attorney Not Dispositive:*** An erroneous statement made by an attorney during the prosecution of a patent does not control over the claims as issued. *Biotec Biologische Naturverpackungen GmbH v. Biocorp, Inc.*, 249 F.3d 1341, 1348 (Fed. Cir. 2001); *Intervet Am., Inc. v. Kee-Vet Labs., Inc.*, 887 F.2d 1050, 1054 (Fed. Cir. 1989) ("When it comes to the question of which should control, an erroneous remark by an attorney in the course of prosecution of an application or the claims of the patent as finally worded and issued by the Patent and Trademark Office as an official grant, we think the law allows for no choice. The claims themselves control."); *Reading & Bates Constr. Co. v. Baker Energy Res. Corp.*, 748 F.2d 645, 652 (Fed. Cir. 1984) (holding that the prosecuting attorney's erroneous admission regarding a piece of prior art was not binding on the patentee).

***Examiner's Amendments:*** An Examiner's Amendment may not make substantive changes in the scope of the claim, but rather is intended to correct errors or omissions in the claims. Manual of Patent Examining Procedure (MPEP) § 1302.04 ("A formal examiner's amendment may be used to correct ... all errors and omissions in the claims...."). Even in the context of an Examiner's Amendment, "it is not necessary that the language be the best...." *Id.* In addition, except to the extent explicitly adopted by the applicant, the statement of an Examiner

will not necessarily limit a claim. *Eolas Techs., Inc. v. Microsoft Corp.*, 399 F.3d 1325 (Fed. Cir. 2005).

### C. Means-Plus Function Elements

A patent claim limitation is permitted to be drafted in what is known as “means plus function” format. The interpretation of such a means plus function limitation is governed by statute. 35 U.S.C. § 112 ¶ 6 (hereinafter “Section 112(6)”); *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039 (Fed. Cir. 1993). Section 112(6) provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The first step in construing claims under Section 112(6) is to identify the function of the limitation. It is only the function recited in the particular claim limitation at issue – not the function of the entire claim or some different function – that is pertinent to the Section 112(6) analysis. It is improper to import additional functional requirements that are not set forth in the claim language from the specification’s examples. *R2 Medical Sys., Inc. v. Katecho, Inc.*, 931 F. Supp. 1397, 1435 (N.D. Ill. 1996) (“The function which defines the limitation is determined by the terms of the claim, not the specification”); *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1573-74 (Fed. Cir. 1985) (Court erred in importing function from specification into claim).

The next step is to determine what structure, material, or acts described in the specification perform the limitation. *Intel v. United States Int’l. Trade Comm’n*, 946 F.2d 821, 841 (Fed. Cir. 1991). What the specification describes is determined from the vantage point of the person of ordinary skill in the art, taking into account what was implicitly known and described. *Loom Co. v. Higgins*, 105 U.S. 580 (1882); *Hybritech, Inc. v. Monoclonal Antibodies*, 802 F.2d 1367, 1384 (Fed. Cir. 1986) (“a patent need not teach, and preferably omits, what is known in the art”).

A claim element that recites structure, or which uses terms that connote structure, is not subject to Section 112(6). *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580 (Fed. Cir.



1996). As stated in *York Prods., Inc. v. Cent. Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1574 (Fed. Cir. 1996):

In determining whether to apply the statutory procedures of section 112, P 6, the use of the word ‘means’ triggers a presumption that the inventor used this term advisedly to invoke the statutory mandates for means-plus-function clauses. 35 U.S.C. § 112, P 6 (1994); see *Greenberg v. Ethicon Endo-Surgery, Inc.* ... (Fed. Cir. 1996). Nonetheless, mere incantation of the word ‘means’ in a clause reciting predominantly structure cannot evoke section 112, P 6. See, e.g., *AMP Inc. v. Fujitsu Microelectronics Inc.*, 853 F. Supp. 808, 820-21, 31 USPQ2d 1705, 1712 (M.D. Pa. 1994) (despite use of the term ‘means,’ claims were not means-plus-function); *Waterloo Furniture Components, Ltd. v. Haworth, Inc.*, 798 F. Supp. 489, 494, 25 USPQ2d 1138, 1142 (N.D. Ill. 1992) (holding ‘that the use of the word “means” in a claim does not as a matter of law refer to an element expressed in means-plus-function form’). Conversely, ‘[t]he recitation of some structure in a means plus function element does not preclude the applicability of section 112(6).’ *Laitram Corp. v. Rexnord, Inc.* ... (Fed. Cir. 1991).

## II. AMPEX’S CLAIM CONSTRUCTION

Set forth below is Ampex’s proposed construction of the claim terms or elements that appear in the Joint Claim Construction Chart, submitted herewith. References to “*Construction 1*”, “*Construction 2*”, etc. are to the numbered rows of the Chart.<sup>5</sup> Ampex first addresses claim construction issues that affect all of the claims in suit (Sections II.A.-E.); then on issues that bear on specific elements in specific claims (Sections II.F.-M.); and finally on the analysis of actual and alleged “means plus function” claim elements (Section II.N.).

### A. *Constructions 1-4: “Video”; “Video Image(s)”; “Video Pixel Data”; “Video Data”; “Video Still Store”*

Ampex selected for construction, and construed, the following phrases that appear throughout the claims:

- A “video image” is an electronic signal representation of visual information displayable in visual form on a monitor or other display device. Generally, a video image may

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<sup>5</sup> Generally, the order that various terms and elements are addressed in the Joint Claim Construction Chart “neutrally” follows the order that they first appear in the asserted claims, although constructions that raise the same or similar issues (in the view of at least one of the parties) are grouped together. Also, in instances where the parties disagreed as to the manner that a particular term or phrase should be quoted or presented, both are submitted. In this Brief, Ampex addresses the issues in what is believed to be an order and grouping that conveniently presents the issues.

represent a still image or a moving image. The video images referred to in the '121 claims are still video images. (*Construction 3*)

- “Video pixel data” is data representing picture elements (“pixels”) of a video image. “Video data” is video pixel data or other data representing a video image. (*Construction 2*)
- A “video still store” is a system capable of storing still video images. (*Construction 4*)

Kodak selected for construction, and construes, “video” as:

- “a series of related electronic images created for rapid display to allow the appearance of movement.” (*Construction 1*)

Kodak also construes the above phrases that Ampex selected for construction:

- “video image(s)”: “Electronic signal representation of visual information that is one of a series of related electronic images created for rapid display to allow the appearance of movement.” (*Construction 3*)
- “video data is digital numerical information defining an image that has been derived from one of a series of related electronic images created for rapid display to allow the appearance of movement.” (*Construction 2*)
- “video pixel data is digital numerical information defining picture elements (pixels) of an image that has been derived from one of a series of related electronic images created for rapid display to allow the appearance of movement.” (*Construction 2*)<sup>6</sup>
- “video still store”: “A television production system that hold and outputs for display image data for individual video images” (*Construction 4*)

Although Kodak’s cameras infringe even under Kodak’s construction of “video,” Kodak in part relies on these unduly narrow constructions of “video”, etc. for its noninfringement case, and in particular its supposed ground to avoid willful infringement.

“Video,” in “video image” or “video pixel data,”<sup>7</sup> is a broad term, that is rooted in the Latin word *videre*, “to see,” and is a word coined in the first half of the 20<sup>th</sup> Century to refer to an electronic signal capable of representing visual information. It was a logical extension of such previously-coined words as “radio” (*radiatus*: ray) and “audio” (*audire*: to hear). *Ninth New*

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<sup>6</sup> The “digital numerical information” aspect of Kodak’s definitions of “video data” and “video pixel data” is discussed *infra*, p. 20.

<sup>7</sup> There is no dispute as to the meaning of “pixel,” which is short for “picture element”:

**“Pixel.** An individual, identifiable element of a picture.... In terms of a digitized picture, one of the dots or resolution elements making up the picture as a pixel.” Van Nostrand’s Scientific Encyclopedia, Sixth Edition (1983) (Beamer Ex. 5).

**“Pixel (Picture Element):** The smallest element of a digitized image....” Kodak Digital Learning Center: Glossary (Beamer Ex. 6).

*Collegiate Dictionary*, Merriam-Webster, 1987 (Beamer ¶ 3). Contemporaneous dictionaries support Ampex's construction:

“**Video** (1) Electronic means of recording, storing and reproducing visual images.” BKSTS Dictionary of Image Technology, Focal Press, 1983, 1988 (Beamer Ex. 2)

“**Video** 1. Pertaining to picture signals....” *McGraw-Hill Dictionary of Scientific and Technical Terms*, McGraw-Hill Book Company, 2nd ed., 1978 (Beamer Ex. 3); see also “**Video**,” *Electronics Dictionary*, 1978 (Beamer Ex. 4).

The principle difference between the parties' definitions is that Kodak limits “video” to motion video, while Ampex recognizes that video encompasses both “still video” and “motion video.” An additional spin on “video” maintained by Kodak and some of its experts, and explicitly imposed by Kodak's definition of “video still store,” is an attempt to narrowly limit “video” to television broadcast standards, and “video still store” to television broadcasting products. Neither of Kodak's positions is sound.

### 1. The ‘121 Patent Captures, Stores and Retrieves Still Video Images

In regard to “still” versus “motion” video, the title of the ‘121 patent is compelling — it begins, “Electronic *Still* Store ....” Indeed, the entire disclosure of the patent focuses on the capture, storage and retrieval of still video images. For example:

“An electronic *still* store system stores and selectively outputs video image data defining a plurality of signal frame still images.” (Abstract)

“Digital electronic *still* store video display systems store a plurality of frames of video images....” (1:15-16)

“The disk store is capable of storing a large library of *single frame images*....” (1:27-28)

“The system includes an image store for storing therein a plurality of *frames* of video images....” (2:1-2)

“Using this system an operator may rapidly scan many *still frame images* which are stored by the image store....” (2:44-45)

Kodak's response to the indisputable fact that the ‘121 patent deals with still video images is to argue that, although the preferred embodiment stores and retrieves still video, it obtains those stills from a motion video signal. It is true that the preferred embodiment of the

‘121 patent discusses, *as one option*, a motion video signal as its source of video stills.<sup>8</sup> But even in the preferred embodiment, the input video signal may represent a totally static image, such as a graphic, photo or slide.<sup>9</sup> The specification specifically provides for both motion and still video input sources:

“The video input circuit 12 may be another electronic still store system, a TV camera, or some other source of video data from which one or more frames of a video image may be captured.” (2:65-3:1)

A normal TV camera can be (but is not necessarily) a source of motion video. But certainly, the “another electronic still store system” provides still video images, and there is absolutely no requirement that such a source be a motion video signal (although it could be). And the “other source,” as it is described, may provide single video frames — “one or more” encompasses embodiments that send one single image at a time. (Ligler ¶¶ 65-68). Kodak and some of its experts seem to believe that there is no such thing as a source of single still video images. Not so. The *intrinsic evidence* establishes otherwise. Specifically, a European Patent reference cited during the ‘121 prosecution refers to picture information, such as documents, photoelectrically converted by a two-dimension scanning device as a “video signal” (Ligler ¶ 67). This use of “video signal” can not be reconciled with Kodak’s definition of “video,” because scanning a single frame is not a series of related images and cannot in any way represent motion.

The use of “video” in the context of scanning and generating single frames of images is confirmed by extrinsic evidence in the form of contemporaneous patents. For example, U.S. Patent No. 4,205,780, issued in 1980, discloses a document handling system for capturing “the video image of each document” and storing the video images in digital form. (Beamer Ex. 10, 5:55-60, 6:3-8). These “video images” are each captured by scanning them *just once* with a

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<sup>8</sup> The ability to “capture” a still video image from motion video was one — but not the only — well known technique to obtain still video images. (‘776 patent, 4:21-25)

<sup>9</sup> E.g., ‘776 patent, 4:21-23 (“the picture library recording system of FIG. 1 has been considered as storing still pictures themselves taken from still pictures (e.g. slides)....”)

video camera. (Beamer ¶ 12). This use of “video image” can not be reconciled with Kodak’s definition of “video.”

In addition, computer terminals and graphics terminals used the term “video” to apply to totally static, non-moving images (Ligler ¶¶ 63-66). Moreover, Kodak’s own experts support Ampex’s construction. (Beamer ¶¶ 42-46).

## 2. The ‘121 Patent Is Not Limited To Broadcast Television

Kodak also incorrectly attempts to limit “video” to broadcast television. Kodak misconstrues a statement in the “Background Of The Invention” of the ‘121 specification (1:11-14):

“This invention relates to a digital electronic still store for broadcast television signals and more particularly to a still store providing a high speed multiimage scan or sort capability.”

(See Cavallerano ¶¶ 27-28).

Kodak assumes that this statement limits the claims to “broadcast television,” but neither the grammar of this sentence, the overall disclosure of the specification, nor the knowledge of those skilled in art supports that interpretation. The statement sets forth two independent statements about what the invention relates to. First, it relates to a digital electronic still store for broadcast television signals — but this is not a disavowal of still stores used in other contexts. Second, the invention “more particularly [relates] to a still store providing a high speed multiimage scan or sort capability.” The second phrase is not limited to a subset of the first.

Significantly, the intrinsic evidence establishes that “video” was not construed in this narrow sense by persons of ordinary skill in the art. When the Patent Office searched for prior art relevant to the claimed invention, it did not limit itself to the television broadcast art. Two of the references cited are entirely outside that art. (Ligler ¶¶ 12-18). Moreover, the extrinsic evidence in the form of dictionaries confirms that “video” is a broad term that refers to a wide variety of electronic images that are totally outside the field of television broadcasting:

**“Video .... relating to, or involving images on a television screen *or computer display*.”** *Ninth New Collegiate Dictionary*, Merriam-Webster 1987 (emphasis supplied) (Beamer Ex. 1).

**Video:** The image capture and transmission technology that was developed for the television industry.... In North America, NTSC is the analog TV standard,

and DTV is the digital TV standard.... *The term is also widely used to refer to the display system in a computer, which uses entirely different standards than TV.*” (emphasis supplied) *TechEncyclopedia* (Beamer Ex. 7).

In addition, contemporaneous patents and technical publications confirm that in 1983 the term “video” was much broader than Kodak contends. The ‘121 patent specification uses as the illustrative embodiment NTSC video (3:57), but the term “video” was not limited to specific broadcast television standards that were in effect in 1983, such as “NTSC” (in the United States), or “PAL” or “SECAM” (in Europe). (Ligler ¶¶ 39-41). When the term “video” was first coined, the idea of electronic display of images was in the basic research stage, and television broadcast standards such as “NTSC” or “PAL” did not exist. See “Video ... 1937 RCA Rev. July 17 ... video circuits....”, *The Compact Edition of the Oxford English Dictionary*, 1987 Supp. (Beamer Ex. 8).

The color broadcast version of “NTSC” was approved in 1953; “PAL” in 1967; and “SECAM” also in 1967. (“Video Standards,” Beamer Ex. 9). By 1983, there were ongoing discussions in the field about the possibility of higher definition television standards that would ultimately supplant current standards such as NTSC. (See “HDTV” (Ligler Ex. 4) (“In 1981, NHK demonstrated an analog 1125-line HDTV system, which prompted several American companies to begin exploring HDTV systems. In 1982, the Advanced Television Systems Committee (ATSC) was established by several companies to develop voluntary standards for advanced television systems”). See also, Ligler ¶¶ 42-43.

Therefore, persons of ordinary skill in the art as of 1983, although they were aware that NTSC and PAL were then commercially prominent examples of “video” signals, knew that the term “video” encompassed more than just signals compatible with NTSC or PAL. In addition, the term “video” was also applied to non-broadcast applications such as closed circuit TV, and “television-type” video display terminals used as computer terminals. (Ligler ¶¶ 44-59). For example, prior to 1983, the standard display terminal for the IBM PC used the CGA (“color graphics adaptor”) standard. This standard — which specified an active pixel area of 320, or 640, pixels wide and 200 pixels high — was referred to as “video.” (Ligler ¶¶ 47-48). IBM in fact

defined “video” in a Glossary for the IBM PC Manual simply as “Computer data shown or displayed on a cathode ray tube monitor or display” (Ligler ¶ 49).

In addition, prior to 1983, higher resolution terminals — which were also referred to as video display terminals — offered higher-than-NTSC resolutions such as 1280 x 1024 and 4096 x 1600. (Ligler ¶¶ 50-60) In addition, U.S. Patent No. 4,205,780, issued in 1980, *supra*, p. 16, discloses single frame “video images” scanned at higher resolutions and lower frame rates than broadcast television. (Beamer ¶ 12). *To like effect*, U.S. Patent No. 4,503,466, filed in 1982 (Beamer ¶ 13).

Finally, Kodak suggests that “video still stores” were confined to use in television broadcast studios. Although still stores were widely used in television studios, persons of skill in the art were well aware of the use of still stores in a wide variety of other applications. For example, a contemporary manufacturer of still store products stated in a March 1980 article about its product:

“Applications and uses of the [still store] are continually expanding in both broadcast and other areas. TV broadcast and production applications include sports, weather, news, special events, variety shows and station breaks. ***Non-broadcast applications*** include slow-scan TV transmission, teleconferencing, medical imaging (X-Ray, ultrasound, and nuclear), electron microscopy, reconnaissance, instrumentation, and digital image processing.” (Beamer Ex. 12)

In addition, a May 1983 article about another still store product states:

“As well as these obvious broadcast and post-production uses of Slide File [a still store product], however, there are also a number of other important applications in which Slide File can be seen to have many potential advantages. These include use in art galleries and museums, as a form of ‘electronic exhibition’; in security checking, as a way of visually identifying authorized individuals; and in medical centres, where Slide File can be used to provide flexible and cost-effective storage of output images from X-ray, tomography and other image-producing diagnostic equipment. In fact, wherever conventional photographic stills have been used in the past, Slide File now offers all the advantages of digital storage at low cost and with maximum convenience.” (Beamer Ex. 13)

Consistent with this, the inventor of the ‘121 patent contemplated using his invention for medical images and to replace film strip projectors. (Beamer ¶ 16). Ampex’s competitor Quantel planned similar applications. Indeed, Kodak’s expert, Mr. Taylor (who was CEO of Quantel), admitted that “We also started to notice that we were selling a lot of video Paintboxes in areas that had nothing whatsoever to do with broadcast television.” (Beamer ¶ 17).

**B. *Constructions 5-7: “Data”; “Data Sets”; “Said Video Pixel Data”; “The Video Pixel Data”; “The Video Data”; “Said Image Data Sets”; “The Data Sets”***

In each of the claims except for claim 11, the claim contains a first occurrence of the phrase “video pixel data” or equivalent, and subsequently has one or more occurrences of the phrase “said video pixel data” or the like. The parties agree that the first instance is the antecedent of the later instances. However, Kodak unduly narrows that meaning of this antecedent relationship in an attempt to avoid infringement. Kodak defines “data” as “numerical information,” defines “data set” as “a group of numbers that collectively represents an image,” and, as set forth in the previous section, includes “digital numerical information” as part of its definitions of “video data” and “video pixel data.”<sup>10</sup> Kodak then defines “said data,” “the data set” or the like to mean “the data that is first referenced in the claims.” Basically, Kodak is attempting to impose a requirement that, in the system of the ‘121 patented inventions, the data for the video images remain in exactly the same form — *i.e.*, be comprised of exactly the same digital “ones” and “zeros” — throughout the system. Taken together, Kodak’s definitions unduly restrict the scope of the claims, and indeed prevent the claims from reading on the preferred embodiment — a result that is “seldom, if ever, correct,” *supra*, p. 9.

Ampex’s *Constructions 5-7*, on the other hand, comport with the understanding of one skilled in the art as of 1983, and preserve coverage of the preferred embodiment. In the context of the claims, “data” is a broad term used synonymously with “information, in any form, representing a video image.” (Beamer Exs. 16, 17). A “data set” is simply a set of data. And “said data,” or variants used in the claims, refers to the data, or information, representing the same image as the antecedent data. It does not matter, insofar as the claims are concerned, if the data is processed to enhance the representation of the image, altered in format, or compressed —

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<sup>10</sup> Ampex objects to these late-offered definitions. The terms “data” and “data set” were not identified by Kodak as terms to be defined until May 16, 2006, and likewise the “digital numerical information” aspect of Kodak’s definitions of “video data” and “video pixel data” were not revealed until that same date. (Beamer ¶ 20).



it is still properly characterized as the data, or the information, that represents the video image.

(Ligler ¶¶ 71-92).

This is confirmed by the '121 patent disclosure for two separate reasons. First, Claim 12 requires “an external source [the ‘video input’ of the preferred embodiment] for supplying ... full size image data sets.” It further requires “an image store” (which is a magnetic disk in the preferred embodiment) and “a memory” (which is a RAM in the preferred embodiment) for storing “*said* full size image data sets.” Under Kodak’s overly narrow construction, which literally requires the same “ones” and “zeros” stored as are provided by the external source, the preferred embodiment would not be an embodiment of claim 12. A significant amount of processing, including so-called “lossy compression” (*i.e.*, some of the binary digits representing the data are thrown away) takes place between the “video input” and the “image store” or “memory.” Specifically, the '121 patent discloses (3:1-34):

In the preferred embodiment of the electronic still store system 10, the video signal is *processed* in component form.... [T]he video input 12 will include appropriate video signal decoding means to *process* video data received from sources that provide the data in an encoded form.

An input analog-to-digital (A-D) converter 14 is coupled to receive an input video signal provided by the video input circuit 12, which typically includes video signal *processing* circuitry that prepares the signal for conversion by the A-D converter 14. The A-D converter 14 converts the input video signal to a digital form which is suitable for handling and processing by digital circuitry. The input AD 14 receives the video signal from the video input 12 and *converts* the video signal to the digital sampled data form in which each pixel of video data is represented by three eight bit data bytes defining respectively luminance, red chrominance and blue chrominance components. Conventionally, the chrominance data has *half the spatial resolution* of the luminance data in the horizontal dimension.... The single byte representation affords a high dynamic resolution of *256 distinguishable states* for each color component. For adequate dynamic resolution, each video component at a sampled data point is preferably defined by at least 6 binary bits providing *64 distinguishable intensities*.

From that point, the data set representing the video image is stored in RAM, and then on magnetic disk. ('121 patent, 3:44-4:19). Thus, there is significant processing between the point in Claim 12 where the antecedent “data sets” are provided, and where “the data sets” are stored. This includes conversion from analog to digital representation, lossy compression in the form of subsampling the color portion of the signal (because the eye is less sensitive to color), and trade-off on quantization of the digital representation. (Ligler ¶¶ 74-75; Boncelet ¶¶ 16-34).

The '121 disclosure includes a second, equally dispositive reason why Kodak's construction of "said data" is unsound. Claims 7, 8, 10, 12 and 14 each require storage of "said data" or the like in "bulk memory," "bulk storage memory," "a second store," or "image store." In the preferred embodiment, this storage element is a magnetic disk store (element 24 in the Figure). The '121 patent states that:

The image store employed herein is a general purpose magnetic disk storage system as is currently used in general purpose digital computer systems.

\* \* \*

[D]isk store 24 is a general purpose magnetic disk storage device as is commonly used in connection with general purpose digital computing systems.

('121 patent, 2:29-31, 4:25-27).

It was common knowledge at the time of the '121 application that digital data transferred from random access memory to the conventional magnetic disk drives then in use would undergo processing and transformation of representation conventions for various purposes. (Ligler ¶¶ 76-92; Boncelet ¶¶ 35-42). Simply put, the "numbers" representing the data or information for the image appearing in the frame store RAM would be completely different from the numbers in the disk. Under Kodak's construction of "data" and "said data," none of these claims would cover the preferred embodiment, or any embodiment that used a standard magnetic disk drive to store the "said data." Such a construction is "seldom, if ever, correct," *supra*, p. 9.

**C. Constructions 18; 22-23; 26-28: Automatic Input And Output Operations And Steps; Order Of Input Operations And Steps**

Properly construed, all of the claims require *automatic* generation and storage of reduced size images *each time* a full size image is stored, and require generation of the reduced size image *prior to* storage of the images. (Constructions 22-23, 26-28). In addition, for claims 7, 10, 12, 13 and 15, which require a plurality of reduced size images to be output, transferred, accessed or retrieved, that operation also must be *automatically* performed by the system. (Construction 18).

Kodak opposes these constructions, because it asserts prior art that operates entirely manually, and in an order of steps entirely inconsistent with the purposes of the '121 invention. This prior art suffers from the same disadvantages as did the art cited in column one of the '121 patent, and so as a matter of law and logic Kodak's opposition to these Constructions is

unsound.<sup>11</sup> Indeed, the statements made by Ampex during the ‘121 prosecution, in order to distinguish the prior art references cited in column one of the patent, and applied by the Examiner, result in a “clear disavowal” of claim scope, *supra*, p. 8, that dictates *Constructions 18, 22-23 and 26-28*.

Moreover, the logic of the language of the claims supports Ampex’s constructions. All of the apparatus claims are expressed in terms of components of the system performing these actions, not the human user (*e.g.*, claim 7: “random access means for storing,” “bulk memory means for receiving,” “means responsive”; claims 8, 14: “control means for causing”; claim 10: “first store for receiving,” “second store for receiving and storing”; claim 12: “image store for storing,” “said memory being responsive”). The method claims, in context, similarly require operations performed by a system, not a human being, *supra*, p. 10.

Likewise, the manner that the claim elements are recited, as to the way that they are interconnected and the way they interact, supports the construction that the reduced size image is generated before the images are stored. For example, claim 7 recites that the RAM stores both the full size and reduced size image, the bulk store receives and stores both, and the size reducer means is responsive to RAM to generate the reduced size image from the full size image in RAM, and to transfer the reduced size image directly back to the RAM. Likewise, the method claims recite “storing both” the full size and reduced size images, after the full size image is received and after the reduced size image is generated. The logic of the method claims, in light of the patent as a whole, support construing the claims to require a specific order of steps, *supra*, p. 10.

In addition, the preferred embodiment functions precisely in accord with the proposed Constructions, and the purpose and stated advantages of the invention compel that construction. As discussed in the Statement of Facts, *supra*, the ‘121 patent is directed to an improved browse feature that generates the browse screen much faster than the prior art browse methods. The ‘121 patent is entitled, “Electronic still store with high speed sorting and method of operation.” The

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<sup>11</sup> Ampex is submitting a summary judgment motion that, under the proper construction of the claims, this prior art does not anticipate the ‘121 claims.

Abstract of the patent states: The [browse screen] is facilitated by *generating a quarter sized copy of each newly received image frame and storing both together* on a conventional magnetic disk storage device ....” The specification further states that the “invention” relates to a “still store providing a *high speed* multiimage scan or sort capability” (1:13-14). The specification explains, in the context of still stores, the need for the ability to rapidly locate and retrieve a previously stored image, the problems of the prior art attempted solutions to this problem, and the successful solution to this problem disclosed in the ‘121 patent. (Cavallerano ¶ 41).

As explained by Ampex’s expert, because the ‘121 patent describes the invention as an improvement over the prior art browse functionality, and based on the disclosure and description of the preferred embodiment, a person of ordinary skill would understand that, at minimum, certain basic features of the prior art would have to be carried over to the system of the ‘121 patent: (i) generation and storage of the reduced size image when the full size image is captured and stored must be automatic; (ii) it must occur each time a full size image is captured; (iii) the browse screen must be automatically generated from the pre-stored reduced size images when the user selects that function. One of ordinary skill would have understood that these basic features would be included, because otherwise the ‘121 patent would not achieve the basic functionality of the prior art browse approaches, which would have made no sense. (Cavallerano ¶ 47).

These constructions are confirmed by the clear disavowals of claim scope made in the prosecution history of the ‘121 patent. In a February 24, 1987 Preliminary Amendment, Ampex added the application claims that ultimately issued as the claims now in suit. Ampex specifically pointed out that these new claims were “in accord with the novelty identified by the Examiner in the first Office Action in the parent of the above identified U.S. patent application.” (Cavallerano ¶ 60). This was a reference to an earlier statement by the Examiner, stating that:

The apparent novelty of the claimed invention as disclosed seem[s] to be as follows:

- 1) each stored “frame” of video data contains both a full and a quarter resolution copy of the image;
- 2) size reduction and production of the “frame” of video data is performed by the interaction between the size reducer and the frame store *prior to* storage in the image storage;

3) and the “frame” of video, containing both resolution copies, is *non-selectively produced* for all images that are stored. (Cavallerano ¶¶ 52-56). (Emphasis added).

In adopting these points of novelty, Ampex further emphasized the invention “store[d] a reduced image *automatically* with the full size counterpart *each time* a full size image ... is to be stored....” (Cavallerano ¶ 60).

For claims 7, 8, 12 and 14, the requirement that the reduced size image is automatically generated from the full size image is further confirmed by the phrase “responsive to said random access memory” in the third element of claim 7 and the fourth elements of claims 8 and 14, and “responsive to ... the external source” in the fifth element of claim 12. Ampex relied on the phrase, “responsive to” that appeared in the claims to distinguish the manually operated Quantel still store prior art:

[Claims] have been amended such that the operation of the size reducer in producing the reduced size image data set from the corresponding full size image data set is “*in response*” to the writing of the full size image data set into the frame store. [The cited art] clearly does not teach this responsive use of the size reducer. To perform such an operation with the [cited] system an operator would have to *orchestrate each step*. Thus the applicant believes that amended Claims ... are patentably distinguishable over the Boyd disclosure.

\* \* \*

This *automatic* use of the size reducer is clearly not taught by the Boyd publication. Again, this type of operation would require complete operator orchestration by the Boyd publication.

A person of ordinary skill would have understood from this argument that it applied to the phrase “in response to” or “responsive to” as to all issued claims using that phrase in the above context. Thus, phrases such as “responsive to said random access memory,” would mean to one of ordinary skill that the recited operations are performed automatically under processor control, as opposed to an operator having to orchestrate each step. (Cavallerano ¶¶ 57-58).

**D. Constructions 9-13: “Corresponding”; “Selected/Selective/Selectively”: Maintaining A Relationship Between The Full Size Image And The Reduced Size Image**

Claims 7, 10, 12, 13 and 15 require a “correspondence” between each full size image and the reduced size image generated from that full size image. Claims 7, 8, 10, 11, 13-15 require outputting “selected one(s)” of full or reduced size images, or the “selective” transfer, or access, of full size or reduced size images. *E.g.*, claim 7 requires:

“storing video pixel data representing one of a succession of full size images ... and a *corresponding* reduced size version thereof....

“outputting upon a user’s command, either a *selected one* of the successive full size images or *selected ones* of the *corresponding* reduced size versions....”

The correct construction of these claim elements requires “that a relationship be maintained between each full size image and the reduced size image generated from that full size image” (*Constructions 9, 11-13*). Kodak, however, maintains that “corresponding” merely means that the “reduced size image is one that relates to a full sized image in that it is a smaller (lower resolution) version of the full sized image” (*Construction 9*). Kodak’s construction ignores the intrinsic evidence context of the claims.

To demonstrate that Kodak’s construction is insufficient, as a starting point, in context, the pertinent dictionary definition of “corresponding” is “having a working relationship”; that of “selective” is “characterized by selection”; and that of “selected (selection)” is “chosen (choice) in preference to another or others.” (*Construction 10*; Beamer ¶ 33). The question then arises: in what manner and how long is the working relationship maintained, on what basis are the choices made, and by whom or what?

The answer is readily apparent from the context of the claims, specification and cited art as a whole. As elaborated on by Ampex’s expert (Cavallerano ¶¶ 43-48), the “corresponding” and “selected/selective/selectively” requirements, separately or together, are related and intertwined with the “high speed sorting and method of operation” aspect of the invention reflected in its title — *i.e.*, the high speed browse function made possible by the invention, *supra*, p. 3. This relationship explains who or what does the selection and maintains the correspondence — both the user of the system, and the system itself, do the selection, and the system maintains the correspondence. The user, while viewing a full size image, must be able to *select* the browse function, and in response the system must *select* the reduced size images that *correspond* to the currently-viewed full size image together with the images adjacent to it in storage, and in further response generate the proper browse screen. Conversely, while viewing the browse screen, the user must be able to *select* a particular reduced size image in the mosaic, and in response the system *selects* the *corresponding* full size image.

The speedier way that the invention affects this two-way interactive relationship is what the invention is all about. Absent that relationship, the invention is a step backward from, rather than an improvement to, the cited prior art discussed and distinguished in column one of the patent. This would be apparent to a person of ordinary skill reading the patent and understanding the capabilities of the art that the patent correctly credits itself as an improvement over. (Cavallerano ¶¶ 47-48). From this fact, Ampex's construction follows: each claim requires "that a relationship be maintained between each full size image and the reduced size image generated from that full size image" (*Constructions 9, 11-13*).

The specification explains why the relationship between the full size and reduced size image is maintained, and how it is maintained. First, the browse feature already existing in the prior art still store systems described in the patent allowed "an editor ... to view and compare several images at the same time for the purpose of selecting those images which will be used in a television broadcast" (1:31-34). Reference to the cited art, and in particular the '776 patent, shows that the prior art provided an automatic browse screen with the same two-way linkage between full and reduced size images described above. (Cavallerano ¶¶ 45-46). The invention had to do likewise — otherwise it would have not been an improvement on the prior art. However, the invention accomplished automatic browse in a faster and much different way:

"An electronic still store system in accordance with the invention rapidly generates and outputs for display to an operator a still image frame comprising a plurality of selectively positioned, reduce size images which may be simultaneously viewed for scanning or editing purposes" (1:64-2:1; *see also* 2:44-51, 4:45-57)

The patent further explains how the relationship between the full size and reduced size images is maintained. *E.g.*, the Abstract of the patent provides for: "generating a quarter sized copy of each newly received image frame and storing both together on a conventional magnetic disk storage device...." (*See also* 3:65-4:7; 4:16-19).

A particular aspect of the disclosed invention confirms that “correspondence” requires that a relationship be maintained between the full size and reduced size image:<sup>12</sup>

“When video data received from disk store 24 does not contain a *corresponding* quarter spatial resolution copy, size reducer 26 may be employed to generate a quarter spatial resolution copy for subsequent transfer to either frame store 22 or disk store 24.” (4:7-12)

There is no way for the system to detect that there is no corresponding reduced size image, unless a relationship is maintained between the full size and reduced size images. (Cavallerano ¶ 47).

**E. Constructions 8, 14-16, 30: “Resolution”; “Successive Full Size Images”; “Full Size Image”; “Reduced Size Image”; “Raster”**

All of the claims refer to full size images and reduced size images (either in those exact words or the equivalent).<sup>13</sup> Straightforward literal interpretation dictates that a full size image in the claims is simply the larger of the two sizes of image required by the claims, and the reduced size image is the smaller of the two sizes of image required by the claim, which is generated from the claimed full size image using a size reducer. (*Constructions 15, 16*).

Kodak would impose an additional limitation on “full size image,” requiring it to “be the same size as the television display” and to “occupy the full screen of the television display, but no more.” In addition, as a variation on its construction of “video,” discussed above, Kodak attempts to read into “successive” the adjacent frames of video images in a motion video. These are part of Kodak’s many unjustified attempts to read limitations into the claims that are not there. There is nothing in the intrinsic record that would justify such construction.

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<sup>12</sup> This particular aspect is optional behavior of the invention, claimed only in claim 6, which is not in suit. *See infra* p. 33. But this optional behavior would not be possible unless the relationship between the full size and reduced size images were maintained in accordance with Ampex’s construction.

<sup>13</sup> The claims use the term “resolution” to mean “the size of the image, measured in picture elements (“pixels”) and/or lines.” (*Construction 8*). Claim 7 uses the phrases “succession of full size images” and “successive full size images” to refer to a plurality of full size images that are stored in the system, one at a time. (*See Construction 14*). Claims 10 and 15 use the term “raster” to refer to “a predetermined pattern of scanning lines that provides coverage of an area; or a rectangular grid of pixels making up the video image.” (*Construction 30*). *See* Beamer ¶¶ 24-27. These terms do not appear to be in dispute.



Indeed, it was common in 1983 for images that were larger than a particular monitor screen to be displayed on the monitor in such a way that only a portion of the image would be visible at any one time, but that the entire image could be viewed by panning around the image. The intrinsic evidence includes an example (Beamer ¶ 28). To like effect is the “Hell Chromacom” prior art on which Kodak relies. One of the articles purporting to describe the Hell Chromacom system confirms that it was well-understood in 1983 that full size images in a computer system could have a larger resolution than that supported by the particular display in that computer system but would still be considered “displayable.” (Beamer ¶ 29).

**F. Construction 21: “Direct”; “Directly”**

Claim 7 requires the “direct transfer” of image data from bulk memory to random access memory; claim 8 requires the size reducer to “directly receiv[e]” full size image data from the random access memory, and to supply the reduced size image “directly back” to the random access memory; claim 8 further requires transfer of image data “directly” from bulk storage memory into random access memory; and claim 10 requires transfer of video data from the second store (the bulk memory) “directly” to the first store (the random access memory).

Ampex defines “direct” and “directly” in this context as:

“Direct” (claim 7) and “directly” (claims 8, 10) mean that the transfer path is not circuitous or roundabout, and that the transferred data is not significantly processed after it has left the providing or sending structure and before it has reached the receiving structure. (*Construction 21*)

First and foremost, this definition is based on the ordinary English language meaning of “direct”: “not roundabout; not turned aside”; and “directly”: “not in a winding course.” (Beamer ¶ 32).

In addition, that the transferred data not be “significantly processed” results from Ampex’s addition of the “directly” requirement to the claims during the prosecution of the ‘121 patent, to distinguish the Taylor ‘776 patent. As discussed in more detail in the next section, a fundamental distinguishing feature of the ‘121 patent over the ‘776 patent is that there is no size reducer interposed between the RAM and the bulk store in the ‘121 system. Thus, the prosecution history requires that “direct,” at minimum, rules out a connection between RAM and bulk store that passes through a size reducer. (Ligler ¶¶ 107-108). One of ordinary skill would

also recognize that other forms of processing similar to size reduction would not be encompassed by “direct.” (Ligler ¶ 98).

Kodak also relies on the prosecution history for its definition of “direct” and “directly”: “the transfer of data without intervening circuitry.” (*Construction 21*). This is based on the fact that, in distinguishing Taylor ‘776 from the ‘121 application claims that ultimately led to claims 7, 8 and 10, the Ampex attorney characterized the connection between the bulk memory and the random access memory as having “no other circuit therebetween.” (Cavallerano ¶ 66).

Kodak takes this isolated statement entirely out of context. As discussed in the next section, the purpose of the extended discussion in which this statement appears was to distinguish the architecture of the ‘776 patent from that of the ‘121 system. In that context, a person of ordinary skill would have understood that the phrase “with no other circuit therebetween” should not be interpreted as Kodak suggests. (Ligler ¶¶ 109-112).

In any event, it is well established that apparent inadvertent overstatements by an attorney do not constitute a clear disavowal of claim coverage, *supra*, p. 11.<sup>14</sup> From the vantage point of a person of ordinary skill, this statement would not have been construed as Kodak would have it, because such person of ordinary skill would have understood that a transfer in the context of the claims would be direct even if it passed through such standard components as buffers, latches and other circuitry commonly used to transfer data from one place to another. In particular, the common techniques used by such CPUs as the Zilog Z80 (‘121 patent, 3:34-37) to transfer data from disk to RAM and vice versa would be regarded as “direct.” (Ligler ¶¶ 97-107).

**G.      *Constructions 17, 25: Full Size and Reduced Size Image Data Stored In RAM Simultaneously; Size reducer transfers and receives data only from RAM***

*Constructions 17 and 25* are closely intertwined with the construction of “direct(ly)” (*Construction 21*), discussed in the previous section. *Construction 17* provides that claim 7, element 1, claims 8 and 14, elements 1, 2 and 4, claim 10, element 2, claim 11, element 3, and claim 12, element 3, require that video pixel data (or “video data” or “data sets”) representing

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<sup>14</sup> The Ampex attorney meant to say “no size reducer circuit therebetween” (Beamer ¶ 34).

each full size image and video pixel data (or “video data” or “data sets”) representing its corresponding reduced size image must be stored in the random access memory (or “first store” or “memory”) simultaneously. Kodak admits that claims 10, 11 and 12 impose this requirement.

The logical construction of the language of claims 7, 8 and 14, including taking into account the interaction of the claimed RAM with the bulk store and size reducer, as described in the specification,<sup>15</sup> at least strongly suggest this construction.

As to *Construction 25*, claim 7, element 3, claim 8, elements 4-5, and claim 10, element 1, including their interaction with other claim elements, require that the subject means (or “size reducing means” or “size reducer”) transfer video pixel data (or “video data”) representing images to, and receive such data from, only the random access memory (or “first store”). As with *Construction 17*, this construction is supported by the literal language of the claims and by the interaction of the claimed RAM and size reducer described in the specification. (*E.g.*, 4:1-15).

As applied to claims 7, 8 and 10, *Constructions 17 and 26*, as well as *Construction 21*, discussed in the previous section, are derived from the prosecution history. In distinguishing the application claim predecessors of claims 7, 8 and 10 over the Taylor ‘776 patent, Ampex made clear disavowals of coverage, confirming *Constructions 17, 21 and 26*. (Cavallerano ¶¶ 62-70).<sup>16</sup>

#### H. ***Construction 24: “Selectively Generating”; “Determines The Selective Transfer”***

The third element of Claim 7 requires a “means responsive to said random access memory means for *selectively generating* one of said [reduced size images].” The last element of claim 14 requires that a “control means also determines the *selective transfer* of said reduced size

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<sup>15</sup> *E.g.*, “the frame store 22 either contains initially or is expanded to contain, storage of video data representing a full resolution full size image, as well as a quarter resolution copy thereof.” (3:65-68).

<sup>16</sup> Kodak’s expert has argued that a drawing amendment made during the ‘121 prosecution, which created a direct connection between the size reducer and the bulk store, negates the above statement made to distinguish the ‘776 patent. However, that amendment was made while a claim was pending that was specifically directed to an embodiment with such a connection. Later, that claim was dropped. The drawing amendment has nothing to do with the scope of any of the issued claims in suit. (Beamer ¶ 36).

image.” There is no dispute that “selectively generating” and “selective transfer” means to choose to generate or transfer, or choose not to generate or transfer, the reduced size image, *see supra*, p. 26. The question is who or what does the selection, and under what conditions?

In the context of claim 7, it is the *system*, not the user, that performs the selection. The automatic operation of the ‘121 claimed still store system during the capture of images for input to the still store has been discussed and established in Section II.C, *supra*. Equally apparent is the fact that, during review mode, when a full size image is brought into the random access memory, the system would not generate or transfer a reduced size image, because that was already done when the full size image was captured. Thus:

The claimed selectivity in the quoted language means that, without the operator orchestrating each step, the claimed means automatically determines whether to generate a reduced size version and generates it in those cases, and (for claim 14) transfers the reduced size image so generated to random access memory.  
(*Construction 24*)

This selective operation is confirmed by Ampex during the ‘121 prosecution:

Applicant’s invention ... as described and claimed, provides image reduction via his size reducer (26) coupled only to the frame store (22), ***and which receives the full size image only from the frame store whenever there is no reduced size image***, and which then returns the reduced size image directly back to the frame store for storage thereof simultaneously with the corresponding full size image.  
(Beamer ¶ 35) (Emphasis supplied)

Kodak’s noninfringement-oriented construction of “selectively generating” and “selective transfer” is that the user chooses whether or not to generate or transfer a reduced size image. As demonstrated in Section II.C, *supra*, this is totally inconsistent with how a person of ordinary skill would understand the ‘121 patent and other intrinsic evidence. (Ligler ¶¶ 115-119).

Kodak points to a statement in the ‘121 patent that “The system may further include an image size reducer ....” (2:17-18). This statement is not pertinent to the claims in suit — it was made when some of the application claims were directed to systems that were directed only to the image review aspect of the invention, and that therefore did not have a size reducer (Beamer ¶ 37). All of the issued claims require a size reducer.

Kodak also relies on a discussion of an optional feature of the invention discussed in the ‘121 patent, which provides for generation of the reduced size image in the event that a full size

image is retrieved from bulk store, and there is no associated reduced size image ('121 patent, 4:7-15). This too is irrelevant to the issues of *Construction 24*. This option is specifically claimed in claim 6 (fourth element), not asserted here. If this optional feature is implemented, it is simply one of the conditions under which the system operates when it chooses whether or not to generate or transfer a reduced size image. (Ligler ¶¶ 115, 117-118; Cavallerano ¶ 76).

#### **I. *Constructions 19-20: “Either ... Or”***

Claims 7, 10 and 12, respectively, require that a “bulk memory”, “second store”, or “image store” outputs, transfers or supplies either a full size image or, alternatively, a *plurality* of reduced size images. In the preferred embodiment, this relates to two types of image review modes: reviewing a full size image, and generating a browse screen of reduced size images:

When operating in a first, normal broadcast mode, frame store 22 receives a full resolution frame of video data from disk store 24 and outputs a continuous television image in digital data form in response thereto.

In a second, editing or browsing mode, CPU 16 commands disk store 24 to output reduced resolution image data which is selectively positioned in frame store 22 for viewing in one of 16 reduced size image positions in a 4x4 array as a mosaic which fits within a normal full size image. ('121 patent, 4:41-50).

Claims 8, 11 and 14 require the “transfer” of either a full size image or, alternatively, *one or more* reduced size images. Thus, the difference between claims 7, 10 and 12 versus claims 8, 11 and 14 is that the former require, as one of the “either/or” alternatives, more than one reduced size image to be output, transferred or supplied, while the latter allow (but do not require) one reduced size image to be transferred.<sup>17</sup>

Significant to infringement issues is that, under the literal “either/or” dichotomy of claims 7, 10 and 12, it is irrelevant, and not inconsistent with, those claim elements if, when the full size image is output, a single reduced size image accompanies it. This is an example of the axiom of claim construction that a claim, such as the claims in suit, that specifies that the system, method

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<sup>17</sup> It is still useful to have a single reduced size image in a browse screen. For example, long after the '121 patent was applied for, Quantel came out with a still store that had a “file card” review mode, consisting of a single reduced size image, together with textual data about that image. (Beamer ¶ 30).

or apparatus “comprises” certain elements is an *open ended* claim, allowing for the presence of additional components beyond those specifically required. *Dow Chem.*, 257 F.3d at 1380-81.

Kodak’s expert has taken the position that the either/or dichotomy of claims 8, 11 and 14 require transfer of either a full size or a *single* reduced size image. (Beamer ¶ 31).<sup>18</sup> This contradicts the literal language of the claims. Both claims 8 and 14 provide in the preamble for “at least one reduced size image.” That is the antecedent for “said reduced size image” in the either/or dichotomy. For claim 11, the antecedent is “a reduced size image.” Again, for open ended “comprising” claims, it is basic law that a limitation requiring “a thing” is satisfied by the presence of one or more such “things.” *E.g., Crystal Semiconductor Corp. v. TriTech Microelectronics Int’l, Inc.*, 246 F.3d 1336, 1350-51 (Fed. Cir. 2001) (“a first clock signal” claim limitation read on a product that used four clocks).

**J. Construction 29: “An Input Port And An Output Port”**

The construction of “input port” and “output port” in claims 8 and 14 is:

A “port” is an interface between a communications channel and a unit of computer hardware.

An “input port” is a port for inputting data into the claimed random access memory.

An “output port” is a port for outputting data from the claimed random access memory. (*Construction 29*)

The definition of “port” is from a contemporaneous technical dictionary. (Beamer ¶ 38). The definitions of “input port” and “output port” flow from the ordinary meaning of “input” and “output” in the context of this definition and the context of the claim.

Kodak, in an effort to avoid infringement, asserts that the input port and the output port be physically separate. In effect, Kodak is construing the claims to require a “dual-port RAM,” which was a specialized term in 1983. (Ligler ¶ 125). There is nothing in the patent or elsewhere in the intrinsic evidence to support reading this narrow construction into the claims. In 1983, it

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<sup>18</sup> If Kodak is indeed pressing this construction, Ampex objects to it as untimely. It was first disclosed in Kodak’s expert’s report, long after identification of claim construction positions were due. (Beamer ¶ 31).

was common for random access memories to have one physical port that served as both an input port and an output port, and a person of ordinary skill in 1983 would have understood that either a dual ported RAM or a RAM with a single input-output port would be covered by the language of claims 8 and 14. (Ligler ¶¶ 122-125).

**K. Construction 31: “External source”**

Element one of claim 12 requires “an external source for supplying” full size images. Element five of the claim refers again to the external source: “said memory being responsive to either the external source or the image store ....” Thus, in context, the claim uses the term “external source” as a label for one of the inputs to the memory, with the other input from the image store. It follows that the proper construction of “external source” is “a source of video images outside of the image store.” (*Construction 31*).

Kodak unjustifiably imposes an additional narrowing construction on “external source,” requiring that it be a “source located outside of and at a *separate physical location* from the physical location of the other components of the video still store system.” Kodak intends to use this to argue noninfringement, merely because its product combines the video still store of the invention with a camera, into one physical package. The word “external” in the claim comes from the fact that the images come from outside the system, not that the means for initially capturing the image is outside the system. Indeed, by the very terms of the claim (*i.e.*, “comprising”), the external source is not itself external, but is part of the system. In the preferred embodiment, the external source is the “video input 12” in the Figure, and is described as being, *inter alia*, “some other source of video data ....” (‘121 patent, 2:65-3:1). Such “other source,” in 1983 or today, could be a camera packaged in the same enclosure as the rest of the system.

**L. Construction 33: “Respective Selected Groups Of Storage Locations”**

Claims 13 and 15 require that data sets for the full size and reduced size images be stored “in respective selected groups of storage locations.” In context, this means “storage locations, chosen by the system, for storage of full size and reduced size image data sets.” (*Construction*

33). Kodak imposes an additional requirement, that all of the full size images be stored in one storage area, and all the reduced size images be stored in another area.

The intrinsic record directly contradicts Kodak's construction. The Abstract of the patent states that the system "generat[es] a quarter sized copy of each newly received image frame and stor[es] *both together* on a conventional magnetic disk storage device...." (emphasis added). And in the Patent Office, Ampex stated: "Applicant's frame store 22 then supplies both the full size image and its corresponding reduced size image back to his disc store 24 for *storage together*." (Beamer ¶ 39). There is no justification for this unsupported limitation.

**M. Constructions 32, 34, 35: "Simultaneously"; "Selectively accessing ... And ... Simultaneously"**

The last element of claim 13 states:

selectively accessing from the storage locations a data set representing one of the plurality of full size images, and a data set representing one of the corresponding plurality of the reduced size reproduction images, simultaneously.

Claim 15 has a similar but not identically worded element:

selectively accessing from the storage locations a data set of one of the plurality of full size images, and one of the sets of the corresponding plurality of the reduced size reproduction images simultaneously;

The parties agree that both of these elements mean the same thing, but when they embark on the exercise of grammatically dissecting these claim elements the parties end up in different worlds.

The correct, construction of these elements is that they require that the claimed method can:

(i) selectively access a full size image

AND

(ii) selectively access a plurality of reduced size images simultaneously.

(See *Construction 34*) (Ligler ¶ 133; Cavallerano ¶ 74).

Thus, the claimed system must be capable of doing both of these accessing steps. Subject to that requirement, at any given point in time, within the scope of claims 13 or 15, the system can do one, or the other, or both of these accessing steps. (This is in contrast to, for example, claim 7, which requires outputting of either a full size image, or a plurality of reduced size images, but not both at the same time.)



Kodak misconstrues these elements to require the simultaneous accessing of one full size image and one reduced size image. Kodak construes “simultaneously” as modifying the entire phrase instead of just the portion after the “and.” Kodak also construes “a data set representing one of the corresponding plurality of the reduced size reproduction images” as referring to just one reduced size image.<sup>19</sup> This contradicts the patent disclosure and the file history. If Kodak’s construction were correct, the claims would not read on the preferred embodiment. (Ligler ¶ 135). Such a construction is rarely, if ever, correct, *supra*, p. 9.

The prosecution history confirms Ampex’s construction. Application claim 29 was the immediate predecessor of issued claims 13 and 15, and the pertinent element originally read:

selectively accessing either one of the data sets of the plurality of full size images or the sets of the corresponding plurality of the reduced size reproduction images simultaneously. (Beamer ¶ 40).

When it added this claim, Ampex described it as follows:

Claim 29 include steps of providing data sets for a plurality of full size images, generating a like plurality of reduced size images from the respective data sets of full size images, storing both the full size data sets and the reduced size data sets in respective groups of storage locations, and selectively accessing either, one of the full size data sets or (all) of the reduced size data sets simultaneously. (Beamer ¶ 40).

The Examiner objected to this element as “confusing,” in particular as to what was being claimed to be done “simultaneously.” (Cavallerano ¶ 71). In response, Ampex amended the claim:

selectively accessing one of the data sets of the plurality of full size images, or the set of the corresponding plurality of the reduced size reproduction images simultaneously. (Beamer ¶ 40).

Ampex also explained:

[A]pplicant has deleted the word “either” from Claim 29 ... and added a comma (,) to line 14, thereby clarifying that the accessing is done to one of the ... full size images, or to the reduced size reproduction images in a set simultaneously. Thus the confusion is believed removed. (Cavallerano ¶¶ 72-73).

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<sup>19</sup> The correct construction of “a data set representing one of the corresponding plurality of the reduced size reproduction images” is that this refers to the same thing as the corresponding phrase in claim 15: “one of the sets of the corresponding plurality of the reduced size reproduction images.” That is, both of these phrases refer to data for a given number of the plurality of reduced size images. For example, data for the first sixteen of some larger number of reduced size images would be an instance of such a data set. (*Construction* 35).

Apparently, the Examiner was uncomfortable with Ampex's decision to change the "either/or" dichotomy, which had been in most of the other claims, to a simple "or." In all likelihood, the Examiner was concerned that, as it read at this point, a system that merely accessed full size images, but was incapable of accessing reduced size images, would satisfy the claim, which would be an unduly broad claim. Therefore, by an "Examiner's amendment," the "or" between the "full size" and "reduced size" clauses was changed to an "and," thus requiring the system to be capable of accessing both a full size image, and a plurality of reduced size images. (Cavallerano ¶¶ 73-74).

Kodak's construction assumes that the Examiner ignored Ampex's explanations to the Examiner of what the claim was directed to, and intended to completely alter the scope of the claim, so that it no longer covered the preferred embodiment. An Examiner's Amendment is normally used to clarify and correct minor errors, not to fundamentally alter the meaning or scope of a claim. (Beamer ¶ 41). An Examiner's Amendment would not be used to cause a claim to no longer read on the disclosed embodiment of the specification. Ampex's construction is in accord with these basic principles.<sup>20</sup>

#### **N. Constructions 36-40: Means Plus Function Analysis<sup>21</sup>**

The parties agree that the last element of Claim 7, "means ... for selectively generating one of said ... reduced size versions...", is a "means plus function" element, and is therefore subject to 35 U.S.C. § 112(6), *supra*, p. 12. The parties also agree on the literal language that

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<sup>20</sup> A related construction issue for this claim element is the meaning of "simultaneous." The ordinary meaning of that word is "at the same time." (*Construction 32*). But this begs the question of how to interpret "the same time" in the context of the claim. Kodak would impose a nonsense construction, requiring access at the same instant in time. A person of ordinary skill would understand otherwise. In the context of claims 13 and 15, given that Ampex specifically told the Patent Office that "access ... simultaneously" meant "access ... in a set" (Cavallerano ¶ 72), Ampex's construction is correct: "'Accessing...simultaneously'" means accessing multiple items at the same time, i.e., as a set as part of a single operation." (*Construction 35*). (Ligler ¶¶ 130-132).

<sup>21</sup> There is no meaningful dispute as to *Construction 38* regarding the "means for selectively transferring" of claim 10, or *Construction 40* regarding the "means ... for displaying" of claim 12, and so those Constructions are not discussed further herein.

specifies the function performed by the claimed means. (*Construction 36*). Kodak, however, apparently refuses to concede what is apparent from the language of the claim, and the specification: the function of “generating one of said ... reduced size versions” is performed, in pertinent part, by the size reducer 26 of the Figure. (Ligler ¶ 140). Kodak further asserts that the ‘121 patent does not describe corresponding structure for performing the function. However, in 1983, size reducers were well known structures. (Ligler ¶¶ 145-154). The size reducer is described in sufficient detail in the ‘121 specification to inform one of ordinary skill in the art as of 1983 that the size reducer was a well known size reducer structure. (Ligler ¶¶ 142-144). The ‘121 patent specifically cites to patents that describe in detail the two most common size reducer structures: one that uses “decimation” (throwing out pixels to reduce size), and one that uses “interpolation” (averaging pixels to reduce size). (Ligler ¶¶ 145-148).

This is confirmed by the record of the European counterpart to the ‘121 patent, where the Examiner raised the same objections now raised by Kodak, and the Board of Appeal flatly rejected the notion that the size reducer was insufficiently disclosed. (Ligler ¶ 153). This is also confirmed by the record in the Patent Office of the prosecution of the “Harada patent,” one of the alleged prior art references that Kodak asserts. There, on an almost identical objection, the Examiner was persuaded that the description of the size reducer was sufficient. (Ligler ¶ 154).

In addition, in alleging that the ‘121 patent is invalid, Kodak and its experts have asserted that size reducers were well known in 1983. (Beamer ¶¶ 47-49). Therefore, the last, means plus function, element of claim 7 has sufficient corresponding structure disclosed in the specification, and that structure is the size reducer (under the control of the CPU).

The fourth element of Claims 8 and 14 is a “size reducing means,” and the fourth element of claim 12 is a “size reducer means.” None of these claim elements is a “means plus function” element. (*Constructions 37, 39*). These elements are no different from numerous other elements in the claims in suit (“random access memory means”, “bulk memory means”, “control means”), where the word “means” does not trigger the provisions of Section 112(6) because there are terms used in the claim element that sufficiently connote structure, *supra*, p. 12. As discussed above, just like “random access memory means”, “bulk memory means”, or “control means”, the term

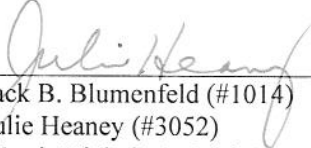
“size reducer” connoted well known structure to one of ordinary skill in the art in 1983. (Ligler ¶ 143).

### CONCLUSION

For the foregoing reasons, Ampex respectfully requests that its proposed claim construction be adopted by the Court.

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May 23, 2006

**CERTIFICATE OF SERVICE**

I, Julia Heaney, hereby certify that on May 23, 2006, I caused to be electronically filed the foregoing with the Clerk of the Court using CM/ECF, which will send notification of such filing(s) to the following:

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